

04936-969

PATENT COOPERATION TREATY

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INTERNATIONAL SEARCH REPORT

TECH CENTER 1600/2900

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 9408-042-228		FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US 00/ 06950	International filing date (day/month/year) 16/03/2000	(Earliest) Priority Date (day/month/year) 19/03/1999	
Applicant VALIGENE CORPORATION et al.			

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.
☒ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**
 - a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
 - b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :
 - ☒ contained in the international application in written form.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority in written form.
 - ☒ furnished subsequently to this Authority in computer readable form.
 - ☒ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
 - ☒ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished
2. ☐ **Certain claims were found unsearchable** (See Box I).
3. ☐ **Unity of invention is lacking** (see Box II).
4. With regard to the **title**,
 - ☒ the text is approved as submitted by the applicant.
 - ☐ the text has been established by this Authority to read as follows:
5. With regard to the **abstract**,
 - ☒ the text is approved as submitted by the applicant.
 - ☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.
6. The figure of the **drawings** to be published with the abstract is Figure No. 1
 - ☐ as suggested by the applicant.
 - ☐ because the applicant failed to suggest a figure.
 - ☐ because this figure better characterizes the invention.
 - ☐ None of the figures.

09/986969
5020
(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
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(10) International Publication Number
WO 00/56926 A3

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G01N 33/53, 33/58, 33/68

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09/272,970 19 March 1999 (19.03.1999) US

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(81) Designated States (national): AE, AL, AM, AT, AU, AZ,
BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK,
DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL,
IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,
LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT,
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MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM,
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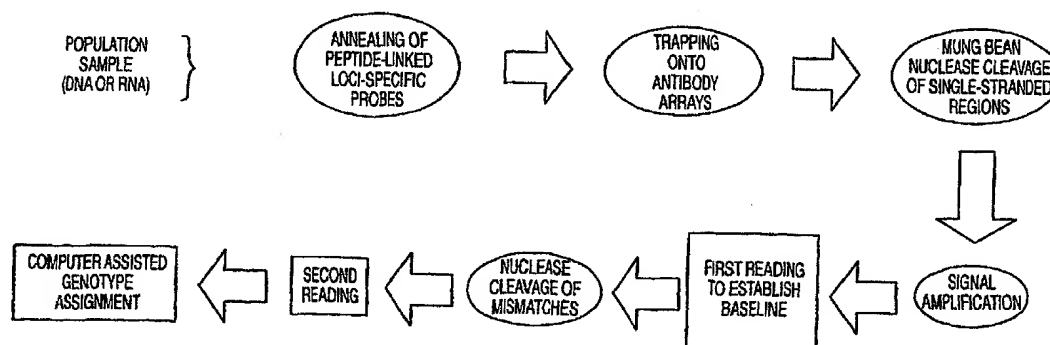
— with international search report

(88) Date of publication of the international search report:
3 January 2002

[Continued on next page]

(54) Title: METHODS FOR DETECTION OF NUCLEIC ACID POLYMORPHISMS USING PEPTIDE-LABELED OLIGONU-
CLEOTIDES AND ANTIBODY ARRAYS

BASIC WORKING PRINCIPLE OF VGMS-PL



(57) Abstract: The present invention is directed to methods and compositions for use in screening nucleic acid populations for nucleic acid polymorphisms. The methods, referred to generally as ValiGeneSM Mutation Screening, Peptide-Linked (VGMS-PL) methods, are specifically designed for high-throughput genotype mapping and gene expression analysis of animal and plant nucleic acids without requiring a PCR amplification step. In particular, the methods of the invention utilize oligonucleotide probes labeled with distinguishable and identifiable peptide tags, that are captured on addressable antibody arrays.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 00/06950

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12Q1/68 G01N33/53 G01N33/58 G01N33/68

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12Q G01N C07K C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, MEDLINE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99 04042 A (BURDEN DAVID W) 28 January 1999 (1999-01-28) page 2, line 14 -page 3, line 27 page 22, line 14 -page 27, line 37	1, 2
A	claims 1-23; example 1	3-43
X	WO 98 26095 A (GENETRACE SYSTEMS INC ;SHALER THOMAS A (US); BECKER CHRISTOPHER H) 18 June 1998 (1998-06-18)	44-46, 48, 50
A	page 54 -page 57, line 28 claims 45-49, 63, 69, 75; figures 7, 23; examples 1, 2, 5	1-43, 47, 49
	--- -/-	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

° Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

11 October 2001

Date of mailing of the international search report

18/10/2001

Name and mailing address of the ISA

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Authorized officer

van Klompenburg, W

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/06950

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 96 40902 A (TREVIGEN INC) 19 December 1996 (1996-12-19) page 2, line 17 - line 26 page 5 -page 6, line 23 page 23, line 11 -page 24, line 26 claims 1-16; figures 1,2; example 11 -----	3-43
P,X	WO 99 36575 A (VALIGENE CORP) 22 July 1999 (1999-07-22) page 58, line 3 - line 10 page 70, line 19 -page 71, line 18 page 73, line 20 - line 29 page 77, line 12 -page 80, line 4 claims 1-49 -----	1,6

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/06950

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
WO 9904042	A	28-01-1999	AU	8409298 A	10-02-1999
			WO	9904042 A1	28-01-1999
WO 9826095	A	18-06-1998	AU	5794498 A	03-07-1998
			EP	0963443 A1	15-12-1999
			WO	9826095 A1	18-06-1998
WO 9640902	A	19-12-1996	US	5656430 A	12-08-1997
			AU	6252796 A	30-12-1996
			EP	0832210 A1	01-04-1998
			JP	11506932 T	22-06-1999
			WO	9640902 A1	19-12-1996
			US	5763178 A	09-06-1998
WO 9936575	A	22-07-1999	US	6221585 B1	24-04-2001
			AU	2234699 A	02-08-1999
			EP	1045927 A1	25-10-2000
			WO	9936575 A1	22-07-1999

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

ANTLER, Adriane, M.
Pennie & Edmonds LLP
1155 Avenue of the Americas
New York, NY 10036
ETATS-UNIS D'AMERIQUE

Date of mailing (day/month/year)

04 December 2000 (04.12.00)

Applicant's or agent's file reference

9408-042-228

International application No.

PCT/US00/06950

IMPORTANT NOTIFICATION

International filing date (day/month/year)

16 March 2000 (16.03.00)

1. The following indications appeared on record concerning:



the applicant



the inventor



the agent



the common representative

Name and Address

TREICH, Isabelle
84, rue des Orteaux
F-75020 Paris
France

State of Nationality

FR

State of Residence

FR

Telephone No.

Facsimile No.

Teleprinter No.

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:



the person



the name



the address



the nationality



the residence

Name and Address

VALIGNE CORPORATION
Suite 2300
70 East 55th Street
New York NY 10022
United States

State of Nationality

FR

State of Residence

FR

Telephone No.

Facsimile No.

Teleprinter No.

3. Further observations, if necessary:

The person in Box I has transferred the assignments to person in Box II.

4. A copy of this notification has been sent to:



the receiving Office



the International Searching Authority



the International Preliminary Examining Authority



the designated Offices concerned



the elected Offices concerned



other:

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Lazar Joseph Panakal

Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

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NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
 US Department of Commerce
 United States Patent and Trademark
 Office, PCT
 2011 South Clark Place Room
 CP2/5C24
 Arlington, VA 22202
 ETATS-UNIS D'AMERIQUE
 in its capacity as elected Office

Date of mailing (day/month/year) 15 November 2000 (15.11.00)	Applicant's or agent's file reference 9408-042-228
International application No. PCT/US00/06950	Priority date (day/month/year) 19 March 1999 (19.03.99)
International filing date (day/month/year) 16 March 2000 (16.03.00)	
Applicant TREICH, Isabelle et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
 13 October 2000 (13.10.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO
 34, chemin des Colombettes
 1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Zakaria EL KHODARY

Telephone No.: (41-22) 338.83.38